ABSTRACT OF THE DISCLOSURE

A protocol for differentiating congestion-related packet loss versus random packet loss in a wireless data connection. The protocol monitors changes in the length of a transmission queue in a wireless data connection over an interval substantially

5   equal to the amount of time it takes to transmit a window of data packets and receive acknowledgements corresponding to all data packets transmitted in the window. If packet loss is preceded by an increase in the queue length over two consecutive intervals, the packet loss is designated as being due to congestion and a congestion avoidance algorithm is initiated. Otherwise, the packet loss is designated as random

10 loss and the transmission window is maintained at its current size. The protocol reduces the transmission rate only when congestion is identified as the cause of lost packets; otherwise wireless losses can simply be quickly retransmitted without a reduction in the data transmission rate.